RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _10/563,944_
Source: _1Fwp_
Date Processed by STIC: _1/19/06_

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IFWP

RAW SEQUENCE LISTING   DATE: 01/19/2006
PATENT APPLICATION: US/10/563,944   TIME: 13:18:13

Input Set : A:\sequence listing ascii.txt
Output Set: N:\CRF4\01192006\J563944.raw

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   3 <110> APPLICANT: Cytos Biotechnology AG
   4        Bachmann, Martin F
   5        Schwarz, Katrin
   7 <120> TITLE OF INVENTION: PACKAGED VIRUS-LIKE PARTICLES
   9 <130> FILE REFERENCE: C62863PC
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/563,944
C--> 11 <141> CURRENT FILING DATE: 2006-01-10
  11 <150> PRIOR APPLICATION NUMBER: US 60/485,717
  12 <151> PRIOR FILING DATE: 2003-07-10
  14 <160> NUMBER OF SEQ ID NOS: 60
  16 <170> SOFTWARE: PatentIn version 3.2
  18 <210> SEQ ID NO: 1
  19 <211> LENGTH: 132
  20 <212> TYPE: PRT
  21 <213> ORGANISM: Bacteriophage Q-beta
  23 <400> SEQUENCE: 1
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  26 1               5                   10                  15
  29 Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val
  30              20                  25                  30
  33 Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val
  34          35                  40                  45
  37 Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val
  38      50                  55                  60
  41 Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys
  42 65                  70                  75                  80
  45 Asp Pro Ser Val Thr Arg Gln Ala Tyr Ala Asp Val Thr Phe Ser Phe
  46              85                  90                  95
  49 Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu
  50              100                 105                 110
  53 Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu
  54          115                 120                 125
  57 Asn Pro Ala Tyr
  58      130
  61 <210> SEQ ID NO: 2
  62 <211> LENGTH: 329
  63 <212> TYPE: PRT
  64 <213> ORGANISM: Bacteriophage Q-beta
  66 <400> SEQUENCE: 2
  68 Met Ala Lys Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Lys Asp Gly
  69 1               5                   10                  15
  72 Lys Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly
  73              20                  25                  30
```

```
 76 Val Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg
 77          35              40              45
 80 Val Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys
 81      50              55              60
 84 Val Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser
 85 65              70              75              80
 88 Cys Asp Pro Ser Val Thr Arg Gln Ala Tyr Ala Asp Val Thr Phe Ser
 89              85              90              95
 92 Phe Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu
 93          100             105             110
 96 Leu Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln
 97          115             120             125
100 Leu Asn Pro Ala Tyr Trp Thr Leu Leu Ile Ala Gly Gly Gly Ser Gly
101      130             135             140
104 Ser Lys Pro Asp Pro Val Ile Pro Asp Pro Pro Ile Asp Pro Pro Pro
105 145             150             155             160
108 Gly Thr Gly Lys Tyr Thr Cys Pro Phe Ala Ile Trp Ser Leu Glu Glu
109              165             170             175
112 Val Tyr Glu Pro Pro Thr Lys Asn Arg Pro Trp Pro Ile Tyr Asn Ala
113              180             185             190
116 Val Glu Leu Gln Pro Arg Glu Phe Asp Val Ala Leu Lys Asp Leu Leu
117          195             200             205
120 Gly Asn Thr Lys Trp Arg Asp Trp Asp Ser Arg Leu Ser Tyr Thr Thr
121      210             215             220
124 Phe Arg Gly Cys Arg Gly Asn Gly Tyr Ile Asp Leu Asp Ala Thr Tyr
125 225             230             235             240
128 Leu Ala Thr Asp Gln Ala Met Arg Asp Gln Lys Tyr Asp Ile Arg Glu
129              245             250             255
132 Gly Lys Lys Pro Gly Ala Phe Gly Asn Ile Glu Arg Phe Ile Tyr Leu
133              260             265             270
136 Lys Ser Ile Asn Ala Tyr Cys Ser Leu Ser Asp Ile Ala Ala Tyr His
137          275             280             285
140 Ala Asp Gly Val Ile Val Gly Phe Trp Arg Asp Pro Ser Ser Gly Gly
141      290             295             300
144 Ala Ile Pro Phe Asp Phe Thr Lys Phe Asp Lys Thr Lys Cys Pro Ile
145 305             310             315             320
148 Gln Ala Val Ile Val Val Pro Arg Ala
149              325
152 <210> SEQ ID NO: 3
153 <211> LENGTH: 128
154 <212> TYPE: PRT
155 <213> ORGANISM: Bacteriophage PP7
157 <400> SEQUENCE: 3
159 Met Ser Lys Thr Ile Val Leu Ser Val Gly Glu Ala Thr Arg Thr Leu
160 1               5               10              15
163 Thr Glu Ile Gln Ser Thr Ala Asp Arg Gln Ile Phe Glu Glu Lys Val
164              20              25              30
167 Gly Pro Leu Val Gly Arg Leu Arg Leu Thr Ala Ser Leu Arg Gln Asn
168      35              40              45
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171 Gly Ala Lys Thr Ala Tyr Arg Val Asn Leu Lys Leu Asp Gln Ala Asp
172     50              55              60
175 Val Val Asp Cys Ser Thr Ser Val Cys Gly Glu Leu Pro Lys Val Arg
176 65              70              75              80
179 Tyr Thr Gln Val Trp Ser His Asp Val Thr Ile Val Ala Asn Ser Thr
180             85              90              95
183 Glu Ala Ser Arg Lys Ser Leu Tyr Asp Leu Thr Lys Ser Leu Val Ala
184             100             105             110
187 Thr Ser Gln Val Glu Asp Leu Val Val Asn Leu Val Pro Leu Gly Arg
188         115             120             125
191 <210> SEQ ID NO: 4
192 <211> LENGTH: 132
193 <212> TYPE: PRT
194 <213> ORGANISM: Artificial Sequence
196 <220> FEATURE:
197 <223> OTHER INFORMATION: Bacteriophage Qbeta 240 mutant
199 <400> SEQUENCE: 4
201 Ala Lys Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Arg Asp Gly Lys
202 1               5               10              15
205 Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val
206             20              25              30
209 Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val
210         35              40              45
213 Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val
214     50              55              60
217 Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys
218 65              70              75              80
221 Asp Pro Ser Val Thr Arg Gln Lys Tyr Ala Asp Val Thr Phe Ser Phe
222             85              90              95
225 Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu
226             100             105             110
229 Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu
230         115             120             125
233 Asn Pro Ala Tyr
234     130
237 <210> SEQ ID NO: 5
238 <211> LENGTH: 132
239 <212> TYPE: PRT
240 <213> ORGANISM: Artificial Sequence
242 <220> FEATURE:
243 <223> OTHER INFORMATION: Bacteriophage Q-beta 243 mutant
245 <400> SEQUENCE: 5
247 Ala Lys Leu Glu Thr Val Thr Leu Gly Lys Ile Gly Lys Asp Gly Lys
248 1               5               10              15
251 Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val
252             20              25              30
255 Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val
256         35              40              45
259 Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val
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Input Set : A:\sequence listing ascii.txt
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```
260     50                      55                      60
263 Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys
264 65                      70                      75                      80
267 Asp Pro Ser Val Thr Arg Gln Lys Tyr Ala Asp Val Thr Phe Ser Phe
268                     85                      90                      95
271 Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu
272                     100                     105                     110
275 Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu
276         115                     120                     125
279 Asn Pro Ala Tyr
280     130
283 <210> SEQ ID NO: 6
284 <211> LENGTH: 132
285 <212> TYPE: PRT
286 <213> ORGANISM: Artificial Sequence
288 <220> FEATURE:
289 <223> OTHER INFORMATION: Bacteriophage Q-beta 250 mutant
291 <400> SEQUENCE: 6
293 Ala Arg Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Arg Asp Gly Lys
294 1               5                       10                      15
297 Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val
298                     20                      25                      30
301 Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val
302         35                      40                      45
305 Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val
306     50                      55                      60
309 Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys
310 65                      70                      75                      80
313 Asp Pro Ser Val Thr Arg Gln Lys Tyr Ala Asp Val Thr Phe Ser Phe
314                     85                      90                      95
317 Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu
318                     100                     105                     110
321 Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu
322         115                     120                     125
325 Asn Pro Ala Tyr
326     130
329 <210> SEQ ID NO: 7
330 <211> LENGTH: 132
331 <212> TYPE: PRT
332 <213> ORGANISM: Artificial Sequence
334 <220> FEATURE:
335 <223> OTHER INFORMATION: Bacteriophage Q-beta 251 mutant
337 <400> SEQUENCE: 7
339 Ala Lys Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Lys Asp Gly Arg
340 1               5                       10                      15
343 Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val
344                     20                      25                      30
347 Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val
348         35                      40                      45
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Input Set : A:\sequence listing ascii.txt
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351 Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val
352     50                  55                  60
355 Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys
356 65                  70                  75                  80
359 Asp Pro Ser Val Thr Arg Gln Lys Tyr Ala Asp Val Thr Phe Ser Phe
360                 85                  90                  95
363 Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu
364                 100                 105                 110
367 Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu
368             115                 120                 125
371 Asn Pro Ala Tyr
372     130
375 <210> SEQ ID NO: 8
376 <211> LENGTH: 132
377 <212> TYPE: PRT
378 <213> ORGANISM: Artificial Sequence
380 <220> FEATURE:
381 <223> OTHER INFORMATION: Bacteriophage Q-beta 259 mutant
383 <400> SEQUENCE: 8
385 Ala Arg Leu Glu Thr Val Thr Leu Gly Asn Ile Gly Lys Asp Gly Arg
386 1               5                   10                  15
389 Gln Thr Leu Val Leu Asn Pro Arg Gly Val Asn Pro Thr Asn Gly Val
390             20                  25                  30
393 Ala Ser Leu Ser Gln Ala Gly Ala Val Pro Ala Leu Glu Lys Arg Val
394             35                  40                  45
397 Thr Val Ser Val Ser Gln Pro Ser Arg Asn Arg Lys Asn Tyr Lys Val
398     50                  55                  60
401 Gln Val Lys Ile Gln Asn Pro Thr Ala Cys Thr Ala Asn Gly Ser Cys
402 65                  70                  75                  80
405 Asp Pro Ser Val Thr Arg Gln Lys Tyr Ala Asp Val Thr Phe Ser Phe
406                 85                  90                  95
409 Thr Gln Tyr Ser Thr Asp Glu Glu Arg Ala Phe Val Arg Thr Glu Leu
410                 100                 105                 110
413 Ala Ala Leu Leu Ala Ser Pro Leu Leu Ile Asp Ala Ile Asp Gln Leu
414             115                 120                 125
417 Asn Pro Ala Tyr
418     130
421 <210> SEQ ID NO: 9
422 <211> LENGTH: 185
423 <212> TYPE: PRT
424 <213> ORGANISM: Hepatitis B virus
426 <400> SEQUENCE: 9
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429 1               5                   10                  15
432 Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
433             20                  25                  30
436 Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
437             35                  40                  45
440 Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
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VERIFICATION SUMMARY   DATE: 01/19/2006
PATENT APPLICATION: **US/10/563,944**   TIME: 13:18:14

Input Set : **A:\sequence listing ascii.txt**
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L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date